

SPERRY
INSTRUMENTS

9 Function, Auto Range Digital Multi-Meter

• Read this owners manual thoroughly before use and save.

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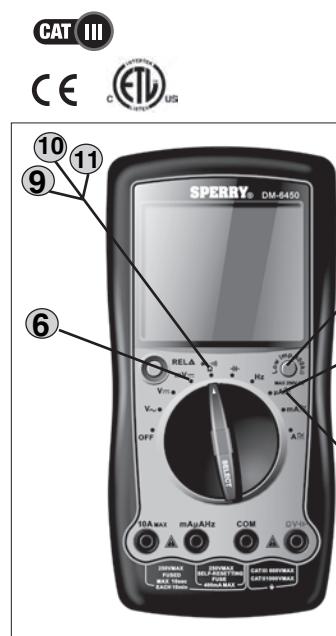
The Professional's Choice®

Milwaukee, WI 53209

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DM6450



- 1. 3/12 digit LCD backlit display
- 2. Test Lead icons on display indicate proper input terminals for easy attachment of test leads
- 3. Durable, drop resistant housing
- 4. 10 position Function dial
- 5. AC Volts
- 6. DC Volts
- 7. AC Amps
- 8. DC Amps
- 9. Resistance
- 10. Audible Continuity Test
- 11. Diode Test
- 12. Capacitance
- 13. Frequency
- 14. Low Impedance button

- 1.0 METER FUNCTIONS**
- Meter type:** Auto-Ranging
Functions: 9
Display Count: 3999
Test Lead Icons: On display indicate proper input terminals for easy attachment of test leads
- Input Impedance:** 10MΩ
AC Volt Ranges: 4V, 40V, 400V, 750V, best accuracy (1.0%+5)
DC Volt Ranges: 0.000V, 4V, 40V, 400V and 1000V, best accuracy (0.8%+1)
- AC Amps:** 400mA, 4000mA, 40mA, 400mA, 4A and 10A, best accuracy (1.2%+2)
DC Amps: 400mA, 4000mA, 40mA, 400mA, 4A and 10A, best accuracy (1.0%+2)
- Resistance Ranges:** 400Ω, 4kΩ, 40kΩ, 400kΩ, 4MΩ, 40MΩ, best accuracy (1.0%+2)
- Over Range Indication:** Displayed value > 1999, displays OL (The safety and accuracy will only be guaranteed within the specification range of the input.)
- Polarity Indication:** - displayed for negative polarity
- Auto Off:** 30 minutes
- Electro-Magnetic :** When it is under 1V/m frequency : total accuracy = assigned accuracy +5% of reading. When it is over 1V/m frequency, there is no assigned accuracy.
- Agency Approvals:** ETL, CE (IEC/EN61010), CAT III 600V, Pollution Degree 2

Operating Temperature: 32°F - 104°F (0°C - 40°C)
Relative Humidity: 32°F - 65°F below +75%
Storage Temperature: 14°F - 122°F (-10°C - 50°C)
Dimension: 179mm x 88mm x 39mm
Weight: Around 380g (including battery)
Code: Maximum 2000m
Warranty info: 5 yr.

2.0 READ FIRST: IMPORTANT SAFETY INFORMATION
This operator's manual thoroughly describes your multimeter. This manual is intended to provide basic information regarding this meter and to describe common test procedures which can be made with this unit. Many types of appliance, machinery and other electrical components are not addressed in this manual and should be handled by experienced service technicians.

Use extreme caution when using this multimeter. Improper use of this meter can result in severe damage to personal injury or death. Follow all instructions and suggestions in this operators manual as well as observing normal electrical safety precautions. Do not use this meter if you are unfamiliar with electrical circuits and proper test procedures.

2.1 FOR YOUR SAFETY

WARNING 1. Use extreme caution when checking electrical circuits.

WARNING 2. Do not stand in wet or damp work areas when working with electricity. Wear rubber soled boots or shoes.

WARNING 3. Do not apply more voltage or current than the set range of the multimeter will allow.

WARNING 4. Do not touch the metal probes of the test leads when making a measurement.

WARNING 5. Replace worn test leads. Do not use test leads with broken or tattered insulation.

Replace damaged test leads with identical model number or electrical specifications before using the Meter.

WARNING 6. Before you carrying out any measurement, make sure the display is normal after you turn on the meter.

WARNING 7. Before using to check hazardous voltage, always test this Digital Multimeter on a known live circuit to verify that this Digital Multimeter is working properly.

WARNING 8. Use the Meter only as specified in this operating manual, otherwise the protection provided by the Meter may be impaired.

Equipment protected throughout by double insulation or reinforced insulation

Caution: Risk of Danger (See note)

9. Discharge a capacitor before measuring it.

10. Remove the test leads from the circuit being measured as soon as the test is completed. Never reset the function/range switch to another range while the leads are still in contact with a circuit.

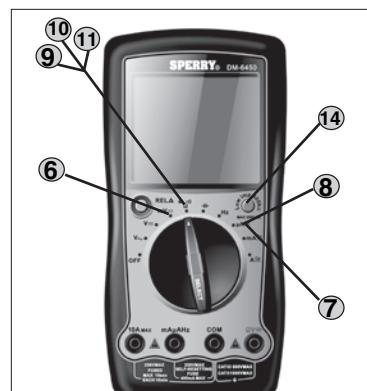
11. Do not measure voltage when the function/range switch is set on the resistance (ohms) settings. Do not measure current when the meter is set on the resistance range. Never measure AC voltage when the meter is set on DC voltage. Setting the meter on the incorrect function may burn out some of the internal circuitry and may pose a safety hazard.

SPERRY
INSTRUMENTS

9 funciones, rango automático Multímetro digital

• Leer completamente este manual del propietario antes del uso y conservelo para referencia futura.

DM6450



- 1. Pantalla de cristal líquido con iluminación posterior de 0.65 cm dígitos
 - 2. Los iconos de conductores de prueba en pantalla indican los terminales de entrada adecuados para facilitar la conexión de los conductores
 - 3. Alojamiento duradero, resistente a las caídas
 - 4. Dial giratorio de 10 posiciones
 - 5. Velocidad de CA
 - 6. Velocidades de CC
 - 7. Amperios de CA
 - 8. Amperios de CC
 - 9. Resistencia
 - 10. Prueba de continuidad audible
 - 11. Prueba de diodo
 - 12. Capacitancia
 - 13. Frecuencia
 - 14. Botón de baja impedancia
 - 15. Cambio relativo
 - 16. Toma de entrada positiva
 - 17. Toma de entrada común
 - 18. La gama escoge el botón
- 1.0 METER FUNCTIONS**
- Tipo de medidor:** Manual
Rangos: Automático: 9
Cuenta en pantalla: 3999
Iconos de conductores de prueba: En pantalla indican los terminales de entrada adecuados para facilitar la conexión de los conductores
- Impedancia de entrada:** 10 Meg Ohmios

Rangos de voltios de CA: 4V, 40V, 400V, 750V, óptima precisión (1.0%+5)
Rangos de voltios de CC: 400mV, 4V, 40V, 400V, 750V, óptima precisión (0.8%+1)

Rangos de amperios de CC: 400mA, 4000mA, 40mA, 400mA, 4A y 10A, óptima precisión (1.2%+2)

Rangos de resistencia: 400Ω, 4kΩ, 40kΩ, 400kΩ, 4MΩ, 40MΩ, óptima precisión (1.0%+2)

Indicación de sobre rango: Valor mostrado > 1999, muestra OL (La seguridad y precisión solamente se garantizará dentro del rango de la escala de medida).

Indicación de polaridad: Aparezca + para la terminal positiva

Cuando está alta frecuencia de 1V/m: precisión total = precisión asignada +5% del rango. Cuando está sobre una frecuencia de 1V/m no hay precisión asignada.

Aprobaciones de agencias: ETL, CE (IEC/EN61010), CAT III 600V, El grado de la contaminación 2

Temperatura de almacenamiento: 0°C - 50°C

Humedad relativa: 0°C - 30°C bajo <75% 30°C - 40°C<50%

Dimensiones: 179 mm x 88 mm x 39 mm

Peso: Alrededor de 380 g (incluyendo la batería)

Altitud: Máxima de 2000 m

Información de garantía: 5 años

12. Damaged meters are not repairable nor is calibration possible. Damaged meters should be disposed of properly.

2.2 OPERATING INSTRUCTIONS

1. Set the function/range switch to the proper position before making a measurement. When the voltage is not known, it MUST be determined that the capacity of the selected range will handle the amount of voltage in the circuit (see #9 under "For Your Safety").

2. Avoid placing the meter in areas where vibration, dust or dirt are present. Do not store the meter in excessively hot, humid or damp places.

This meter is a sensitive measuring device and should be treated with the same regard as other electrical and electronic devices.

3. When the meter is not in use keep the meter turned off to keep the battery from discharging.

4. When disconnecting the test leads from the unit, always grasp the leads with the input jacks meet the tester housing. Do not pull the leads out of the jacks by the insulation wire or transport the tester using the test leads as a carrying strap.

5. Do not immerse the meter in water or solvents. To clean the housing use a damp cloth with a minimal amount of mild soap.

NOTE: With any measurement made by this meter, there will be some fluctuation of the digital display. This is due to the meter's sampling method. This unit samples at a rate of 2 times per second, thus the fluctuation of the readout.

3.0 FUNCTION BUTTONS

1. Press REL button to enter relative change mode and automatically enter manual ranging mode.

2. The present measurement value is saved as a stored value.

3. Take a second measurement and the meter will display the difference or change between the initial stored measurement value and the new measurement value.

4. Pressing the REL button again or turning the rotary switch will exit the Relative mode and enter the normal measurement mode.

Note: The meter can not enter the relative mode when it displays OL.

3.2 LOW IMPEDANCE

WARNING To avoid damage to the meter do not use this button when the measured voltage is higher than 250V. Do not press this button for more than 3 seconds.

1. Press and hold Low Imp. 400kΩ button to switch input impedance from 10MΩ to 400kΩ. Do not press this button for more than 3 seconds.

2. When this button is released the meter returns to the default input impedance of 10MΩ.

3.3 AUTO OFF

1. To conserve battery life the meter powers off automatically after 15 minutes of non use.

To disable auto off press the select button while turning the meter.

3.4 DIAL SETTINGS

4.0 DIAL SETTINGS

WARNING To avoid personal injury or damage to the Meter, do not attempt to measure voltages higher than 750V AC.

4.1 AC VOLTS

WARNING To avoid personal injury or damage to the Meter, do not attempt to measure voltages higher than 1000V DC.

There are five ranges for measuring AC voltage, 4V, 40V, 400V, 750V and 1000V. For more accurate measurements use the lowest range possible without exceeding the voltage setting. ie. Use the 4V setting only if the voltage is 4V or less.

1. Set the function/range switch to V~.

2. Insert the black test lead into the COM input terminal.

3. Insert the red (positive) test lead into the V~ input terminal.

4. Touch the test leads to the circuit under test. With DC voltage, the polarity of the test leads is a factor. Touch the black (common) test lead to the negative (-) terminal. With AC voltage, the polarity of the test leads is not a factor.

5. Read the value of the measurement displayed.

6. Typical AC Voltage measurements include wall outlets, appliance outlets, motors, light fixtures and switches.

4.2 DC VOLTS V---

WARNING To avoid personal injury or damage to the Meter, do not attempt to measure voltages higher than 1000V DC.

There are five ranges for measuring DC voltage, 400mV, 4V, 40V, 400V and 1000V. For more accurate measurements use the lowest range possible without exceeding the setting.

1. Set the function/range switch to the appropriate DC range.

2. Insert the black (negative) test lead into the COM input terminal.

3. Insert the red (positive) test lead into the V~ input terminal.

4. Touch the test leads to the circuit under test. With DC voltage, the polarity of the test leads is a factor. Touch the black (common) test lead to the negative (-) terminal. With AC voltage, the polarity of the test leads is not a factor.

5. Read the value of the measurement displayed. If the leads are reversed a "-" indicator will appear on the display.

6. Typical DC Voltage measurements include car batteries, automotive switches and household batteries.

4.3 AC OR DC AMPS A~~

WARNING To avoid possible damage to the Meter or to the equipment under test, check the Meter's fuses before measuring current. Use the proper terminals, function and range for the measurement. Never place the test leads in parallel with any circuit or component when the leads are plugged into the current terminals.

WARNING Do not attempt to measure current exceeding 10Amps AC or DC. If you are not sure if the current exceeds 10Amps do not attempt to measure current with this meter.

There are three positions on the meter for measuring current: A+, mA-, or μA-. The A- position has a 4.0 A and a 10A range and is auto ranging. Start with this 10A setting if the measured current is between 1A-10A. Use the mA- setting if the measured current is ≤400mA. Use the μA- setting if the measured current is <400μA.

1. Set the rotary switch to A-, mA- or μA-.

2. Insert the black (negative) test lead into the COM input terminal.

3. Insert the red (positive) test lead into the 10A max terminal.

4. DC Amp measurement is the default. Press SELECT if -AC Amp measurement mode is desired.

5. Turn off power to the circuit to be measured.

6. Open the circuit to be measured.

7. Touch the positive side of the break in circuit and the black test lead to the negative side of the break in circuit for DC Amp measurement. For AC Amp measurement the polarity of the leads does not matter.

8. Return power to the circuit.

9. Read the amps on the display.

Notes: When measuring AC Amps this meter displays the mean (sine wave effective value).

When the measured current is <5amps continuous measurement is acceptable.

WARNING When the measured current is 5-10amps do not exceed 10 seconds of continuous measurement. Wait 15 minutes between current measurements when measured current is between 5-10amps.

Always start with the highest 4- Measurement range and reduce the range in steps once you know that the current does not exceed the next lower range. Once the measurement is complete, immediately remove the test leads from the circuit under test and remove the test leads from the input terminals of the meter.

4.4 RESISTANCE Ω

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